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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,160	04/21/2004	Mark Winfield Scott	67008-084; S-5708	8114

26096 7590 08/23/2005

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BIRMINGHAM, MI 48009

EXAMINER

COLLINS, TIMOTHY D

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/830,160

Applicant(s)

SCOTT, MARK WINFIELD

Examiner

Timothy D. Collins

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11, 12 and 15 is/are rejected.
- 7) ☒ Claim(s) 13, 14 and 16-21 is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/21/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, drawn to a coaxial rotor system classified in class 244, subclass 17.23.
  - II. Claims 11-21, drawn to a method of controlling a coaxial rotor system, classified in class 416, subclass 1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process may be done by hand or manually wherein the blades are controlled through speed control to avoid tip interaction.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. When the invention I, the apparatus is chosen, the following election of species applies.

6. This application contains claims directed to the following patentably distinct species of the claimed invention:

- a. Species a: Servo Flap (claim 4)
- b. Species b: Tip Brake (claim 5)

7. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

8. During a telephone conversation with David Wisz on 8/11/05 a provisional election was made without traverse to prosecute the invention of the method II, claims 11-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-10 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Specification***

9. The abstract of the disclosure is objected to because it includes "means" language. It is suggested that the applicant replace the phrase "by means of" in line 2 with the phrase "by way of". Correction is required. See MPEP § 608.01(b).

10. The disclosure is objected to because of the following informalities: on page 7 at line 13 the word "case" appears to be a typo and should read "cause".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4027999 to Durno (hereinafter called 999) in view of USPN 3521971 to Cheney Jr. (hereinafter called 971).

c. Re claim 11, 999 discloses a method of controlling a coaxial rotor system with a first and second rotor system spaced axially along a common axis, as seen in figure 6 at least. The rotors 12 and 14 being controlled independently to control bending and moments as seen in at least column 4 at lines 25-31. 999 however does not specifically disclose that the rotors bending is controlled to maintain a minimum rotor blade tip separation between the first and second rotor systems. However 971 teaches of independently controlling the rotors for controlling the bending at least in column 2 at lines 7-10 for the reason of controlling blade interference (also known as blade interaction (to keep the rotors from touching one another)). Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 971 into the device of 999 so as to keep the rotors from touching one another for the purpose of avoiding blade interference as taught by 971 in column 2. Another reason to avoid blade interference or to control the separation in this case is to keep the craft from crashing due to rotor interaction (touching).

13. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over 999 as modified above in claim 11, and further in view of US 2005/0067527 to Peterson (hereinafter called 527).

d. Re claim 12, 999 as modified does not disclose the rotor blades being controlled via control surfaces (flaps) on each blade, however 527 does teach of this at least in figures 29,31 and 32 and also in page 2 at the end of paragraph 0019, and also in paragraph 0110 on page 9. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of the control system with flaps and computer control of 527 into the device of 999 as modified so as to allow for greater control and maneuverability as seen in 527 in paragraphs 0012 and 0015.

e. Re claim 15, 999 as modified above in claims 11 and 12 discloses controlling the rotors remotely from an assembly remote from first and second rotors in paragraph 0110 in at least the computer 341 and cables 293.

***Allowable Subject Matter***

14. Claims 13,14 and 16-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***


15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art discloses helicopters and control systems.

f. USPN 6311924

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Collins whose telephone number is 571-272-6886. The examiner can normally be reached on M-F, 7:00-3:00, with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Timothy D. Collins  
Patent Examiner  
Art Unit 3643